

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: VERWOERD, G. - 1 PCT (RCE-2)

SERIAL NO.: 10/550,133 EXAMINER: Gilbert Y. LEE

FILED: OCTOBER 26, 2005 GROUP: 3676

TITLE: ANNULAR-GAP SEAL FOR A VALVE

REPLY BRIEF

MAIL STOP: APPEAL BRIEF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

Applicant herewith submits a Reply Brief pursuant to
37 C.F.R. 41.41 in response to the Examiner's Answer dated
January 5, 2010.

I. Status of Claims on Appeal:

Claims 8-13 have been rejected under 35 U.S.C. §112 for failing to comply with the written description requirement.

Claims 8-13 are also rejected under 35 U.S.C. §103 as being unpatentable over Bosch FR 1,391,410 in view of Reid US 2,859,061 and Benware, US 3,642,248.

II. Grounds of Rejection to be reviewed on Appeal:

Whether the rejection of claims 8-13 under 35 U.S.C. §112 is proper or should be reversed. Whether the rejection of claims 8-13 under 35 U.S.C. §103 as being unpatentable over Bosch in view of Reid and Benware is correct or should be reversed.

III. Argument

The rejection of claims 8-13 under 35 U.S.C. §112 should be reversed. Applicant submits that the claims define the orientation of the groove and the lugs in such a manner as to clear and understandable to one of skill in the art. As explained in the Appeal Brief, the sealing rings are defined as having a C-profile 28 which forms a sealing shoulder 31 below the sealing lip 27, which is tailored to the shape of the peripheral lug 32, which projects axially into the groove 21 and may be pressed fluid-tight thereon. The C-profile 28 ends in a lower sealing edge 33, which may be pressed against the groove base 34 of the groove 21. Thus the specific orientation of the sealing shoulder being below the sealing lip, and having a lower edge that is pressed against the groove base, defines an orientation where the groove base is at the bottom and the sealing lip is at the top. Thus, the "upward" incline of the interior surface facing the groove corresponds with the orientation of the sealing rings, which are pressed against the peripheral lugs, and thus "upwardly inclined" is directed to mean toward the direction of the sealing lips 27. Thus, Applicant submits that claim 8

clearly defines the orientation of the groove and the lugs.

On page 3 of the Examiner's answer, it is stated that it is unclear whether the shape of the shoulder and lug are due to installation/stress or if the shapes are preformed. Applicant submits that these shapes are preformed. There is no teaching in the specification that the shapes are formed by stress and no assumption as such should be made.

Therefore, Applicant submits that claims 8-13 are in compliance with 35 U.S.C. §112.

The rejection of claims 8-13 under 35 U.S.C. §103 as being unpatentable over Bosch in view of Reid and Benware should be reversed.

On page 5 of the Examiner's Answer, the Examiner states that It would have been an obvious matter of mechanical expedience to make the lugs with an inclined surface. Applicant disagrees. The inclined surfaces of the lugs in claims 8-13 is an inventive improvement over the prior art, and causes the groove to form a

conical shape rather than the cylindrical shape in Benware. The This conical shape has advantages over the groove in Benware in that it better compensates wear of the tips of the sealing rings, because the sealing rings can be displaced radially towards the axis until the inclined shoulder 31 of the sealing ring comes into contact with the inclined underside of the peripheral lug. The Examiner states that the conical shape is not claimed in the claims; however, this conical shape is formed by the inclined surface. Therefore, the inclined surface would not be an obvious matter of mechanical expedience, and is not taught or suggested by any of the cited references, taken alone or in combination.

None of the cited references teach or suggest a lug having an interior surface facing the groove that is upwardly inclined from a wall of the groove toward the middle plane of the groove, and two sealing rings positioned mirror-symmetrically next to one another in the groove being provided, said sealing rings having a shoulder corresponding to a shape of the inclined surface of the lug and contacting the lug in an area where the lug is inclined. The present invention is an advantageous improvement over the prior art, and the invention of independent claim 8, and

dependent claims 9-13 is not taught or suggested by the combination of references cited by the Examiner.

Accordingly, Applicants submit that claims 8-13 are in compliance with 35 U.S.C. §112 and are patentable over the cited references. Reversal of the Examiner's rejections is respectfully requested.

Respectfully submitted,
Gerrit H. VERWOERD ET AL.

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I hereby certify that this correspondence is being electronically filed in the U.S. Patent and Trademark Office on February 8, 2010. 

Elizabeth Collard Richter